Infant and Child Feeding Indicators Measurement Guide

January 1999

This publication was made possible through support provided by the Office of Health and Nutrition, Bureau for Global Programs, U.S. Agency for International Development, under the terms of Cooperative Agreement No. HRN-A-00-98-00046-00, the Food and Nutrition Technical Assistance Project (FANta), to the Academy for Educational Development. Additional support was provided by the Office of Food for Peace, Bureau for Humanitarian Response. Earlier drafts of the guide were developed with funding from the Food and Nutrition Monitoring Project (IMPACT) (Contract No. DAN-5110-Q-00-0014-00, Delivery Order 16), managed by the International Science and Technology Institute, Inc. (ISTI). The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development.

The U.S. Agency for International Development administers the U.S. foreign assistance program providing economic and humanitarian assistance in more than 80 countries worldwide.

Infant and Child Feeding Indicators Measurement Guide

January 1999

Acknowledgments

This Guide was written by Mary S. Lung'aho and was adapted from an earlier version produced at Wellstart International's Expanded Promotion of Breastfeeding (EPB) Program by Mary S. Lung'aho, Sandra L. Huffman, Miriam H. Labbok, Elisabeth Sommerfelt, and Jean Baker. The author wishes to thank the reviewers for their helpful comments on the drafts. Eunyong Chung of the USAID Global Bureau's Office of Health and Nutrition provided useful insight and support for the development of this Guide. The Office of Food for Peace was instrumental in encouraging and supporting the Guide. Bruce Cogill, Anne Swindale, and Patrick Diskin of the IMPACT Project provided extensive comments and assistance. Special thanks to the efforts of the editor, Dorothy B. Wexler, and the layout advisor, Stacy Swartwood. The Cooperating Sponsors were essential to the development of the Guide. This Guide is dedicated to them.

Recommended Citation

Lung'aho, Mary S. Infant and Child Feeding Indicators Measurement Guide. Arlington, Va.: Food Security and Nutrition Monitoring (IMPACT) Project, ISTI, Inc., for the U.S. Agency for International Development. January, 1999.

Copies of the Guide can be obtained from:

1. Food and Nutrition Technical Assistance Project (FANta), Academy for Educational Development, 1825 Connecticut Avenue, NW, Washington, DC 20009-5721. Tel: 202-884 8000. Fax: 202-884 8432. E-mail: fanta@aed.org. Homepage: www.fantaproject.org

2. Food Aid Management, 300 I Street, NE, Suite 212, Washington, DC, 20002. Tel: 202-544 6972. Fax: 202-544 7065. E-mail: fam@foodaid.org. Homepage: www.foodaid.org

Table of Contents

Appendices

List of Technical Terms

Breastmilk substitutes: Non-human milk products (infant formula and animal milks) that replace or substitute for breastmilk.

Colostrum: The first milk. It is a yellow sticky fluid secreted during the first few days postpartum, which provides nutrients and protection against infectious disease.

Complementary feeding: Period during which other foods or liquids are provided along with breastmilk. Recommended to begin around the sixth month.

Continued feeding: Breastfeeding or food offered at about the same or greater frequency during diarrhea as before diarrhea started. For purposes of this indicator guide, an infant 0 - <6 months who received continued breastfeeding is considered to have received continued feeding.

Diarrhea: Three or more loose or watery stools in a 24-hour period, a loose stool being one that would take the shape of a collection container and/or blood in the stool on any day; or local definition of diarrhea.[1]

Diarrheal episode: An episode of diarrhea begins with a 24-hour period with three or more loose or watery stools. An episode of diarrhea is considered to have ended after 48 hours without three or more loose or watery stools within a 24-hour period.

Extra foods: One extra meal or snack per day and/or more frequent breastfeeding after diarrhea.

Exclusive breastfeeding: Period when all fluid, energy, and nutrients are provided by breastmilk, with the possible exception of small amounts of medicine, vitamins, or minerals. The exclusively breastfed child does not need water.

Infant formula: A nonhuman milk product formulated from animal milk or vegetable protein (soy) and adapted to the physiological characteristics of infants.

Pre-lacteal feed: A pre-lacteal feed is a liquid other than colostrum (the earliest breast fluid produced after birth) given to the infant before the mother's mature breastmilk "comes in."

Sustained breastfeeding: Continuation of breastfeeding throughout a child's transition to the family diet. Recommended well into the second year of life and beyond.

---

1. UNICEF. Monitoring Progress Toward the Goals of the World Summit for Children. A Practical Handbook for Multiple-Indicator Surveys. Planning Office, Evaluation and Research Office, Programme Division. January, 1995. New York, NY. Page A1.11.

List of Acronyms

BHR	Bureau for Humanitarian Response, USAID
CS	Child Survival
DHS	Demographic and Health Survey
DHS-III	Demographic and Health Survey (third phase of DHS surveys conducted in the country)
FANta	Food and Nutrition Technical Assistance Project
FFP	Office of Food for Peace, BHR
IMPACT	Food Security and Nutrition Monitoring Project, USAID
MCH	Maternal and Child Health
MICS	Multiple Indicator Survey, WHO
No.	Number
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

1 Purpose of Guide

Box 1: About this series...

This series of Title II Generic Indicator Guides has been developed by the Food and Nutrition Technical Assistance (FANta) Projects, and its predecessor projects (IMPACT, LINKAGES), as part of USAID's support of the Cooperating Sponsors in developing monitoring and evaluation systems for use in Title II programs. These guides are intended to provide the technical basis for the indicators and the recommended method for collecting, analyzing and reporting on the generic indicators that were developed in consultation with the PVOs in 1995/1996.

Below is the list of available guides:

1. *Food Security Indicators and Framework for use in the Monitoring and Evaluation of Food Aid Programs* by Frank Riely, Nancy Mock, Bruce Cogill, Laura Bailey, and Eric Kenefick
2. *Infant and Child Feeding Indicators Measurement Guide* by Mary Lung'aho
3. *Agricultural Productivity Indicators Measurement Guide* by Patrick Diskin
4. *Sampling Guide* by Robert Magnani
5. *Anthropometric Indicators Measurement Guide* by Bruce Cogill
6. *Household Food Consumption Indicators Measurement Guide* by Anne Swindale and Punam Ohri-Vachaspati

In addition to the above categories, other guides are under preparation:

7. *Evaluation Design Guide* by Frank Riely
8. *Water and Sanitation Indicators Measurement Guide* by Pat Billig

This guide is designed to assist Cooperating Sponsors and USAID in monitoring and evaluating maternal and child health (MCH)/child nutrition activities funded under USAID's PL 480 Title II Food Aid program. The goal of these activities is to improve the nutritional status and the general well-being of infants and children. One measure of success is a reduction of stunted and underweight children. Such decreases across a given population are the broad impacts or

outcomes for these projects as defined by the USAID's Office of Food for Peace (FFP) in the Bureau for Humanitarian Response (BHR).[2]

This guide is concerned with the changes in feeding practices of infants and small children that must occur as a precondition for improved nutritional status. A number of feeding practices are almost universally believed to be beneficial and are commonly promoted in the course of MCH/child nutrition activities. Five of the most widely accepted are that:

- breastfeeding be initiated within the first hour of life
- babies be exclusively breastfed during the first six months
- complementary foods be introduced thereafter
- infants and small children with diarrhea be given the opportunity to eat while they are ill, and
- after recovery from diarrhea, nutritional intake be increased.

These five practices are often the intermediate results sought in MCH/child nutrition activities.

Figure 1: Recommended Wording of Title II Infant and Child Feeding Indicators

Impact Indicators for Infant and Child Feeding

ICF1. Percentage infants less than 24 months breastfed within 1 hour of birth

ICF2. Percentage infants less than 6 months breastfed only

ICF3. Percentage infants 6-10 months fed complementary foods

ICF4. Percentage infants less than 24 months offered continued feeding during diarrhea

ICF5. Percentage infants less than 24 months offered additional food for 2 weeks after diarrhea

2. Specifically, the FFP preferred impact indicator for nutritional status of infants and small children is the percentage of stunted children 24-59 months; the second is the percentage of underweight children (refer to Anthropometry Guide).

USAID has recommended that the indicators used to report on feeding behavior be based on these five commonly accepted practices.[3] This guide is designed to help project staff gather, analyze, and present the data for these indicators accurately and effectively. The intent is that the data be collected through population-based surveys. The purpose is to provide useful information on program progress to policy makers, funding organizations, program managers, and the community as well as to develop an overall picture of the patterns of feeding practices for children in the first two years of life in the program area.

Table 1 and Table 2 provide a working outline for the process. Table 1 lists the indicators, defines them, and explains how to calculate them. Table 2 lists the questions to be used in the survey. Table 3 explains how the answers should be used in calculating the indicator.

The remainder of the guide provides details on the contents of the three tables, flagging problems that can arise in executing the various steps and cautioning against non-recommended approaches. Among the appendices, several are designed to serve as stand-alone guides for specific phases of the process.

3. They are relevant to Intermediate Result 2a: Improved Health, Nutrition, and MCH Services and Practices, and conform to the numbering under section "Child Feeding Impact Indicators for MCH/CS Activities" — see Appendix 7: List of Generic Title II Indicators.

Box 2: Authorities

The guide relies heavily on two documents developed by USAID projects for measuring breastfeeding promotion and practices:

- *Indicators for Reproductive Health Program Evaluation: Final Report of the Subcommittee on Breastfeeding*, developed by the Reproductive Health Indicators Working Group of the EVALUATION project and published in December 1995,[4] and
- *Tool Kit for Monitoring and Evaluating Breastfeeding Practices and Programs*, developed by the Wellstart project and published in September 1996.[5]

In addition, it draws on three model questionnaire modules provided below in Appendix 1:

- A breastfeeding module developed by UNICEF entitled *Monitoring Progress Toward the Goals of the World Summit for Children. A Practical Handbook for Multiple-Indicator Surveys* (also referred to MICS)
- A breastfeeding module developed by the Demographic and Health Surveys (DHS), Phase III and included in its *Model "A" Questionnaire*, and
- A diarrhea module, also developed by DHS and included in its *Model "A" Questionnaire*.

4. Available from the EVALUATION Project, Carolina Population Center, University of North Carolina at Chapel Hill, CB 8120 University Square, Chapel Hill, NC 27516-3997, USA. Edited by O'Gara, C., M.H. Newsome and C. Viadro.

5. Available from the LINKAGES Project, the Academy for Educational Development, 1825 Connecticut Ave., NW, Washington, DC 20009-5721. Authored by Lung'aho, M. S., S. L. Huffman, M. H. Labbok, A. E. Sommerfelt and E. J. Baker.

2 Indicator Definitions and Prototype Questionnaire

Table 1: Child Feeding Behavior Impact Indicators for MCH/Child Survival Activities[6]			
Indicator	Definition	Numerator	Denominator
Indicator 1	Percent of infants/ children <24 months breastfed within the first hour of life [*Timely initiation of breastfeeding rate*[7]]	No. of infants 0 - <24[8] months of age who were put to the breast within one hour of birth	Total No. of infants 0 - <24 months of age
Indicator 2	Percent of infants less than 6 months given only breastmilk [*Exclusive breastfeeding rate*] An infant is considered to be exclusively breastfed if s/he receives only breastmilk and no water, other, or solids. Drops or syrups of vitamins, mineral supplements, or medicines are allowed.	No. of infants 0 - <6 months of age given only breastmilk	Total No. of infants 0 - <6 months

6. All indicators are measured as percentages. See Appendix 2 for additional information on indicators.

7. Alternative indicator names are given in brackets.

8. Indicators are calculated from age data in "completed months." Age 0 - <6 months is defined as completed months 0, 1, 2, 3, 4, and 5. Age 0 - <24 months is defined as completed months 0 - 23 inclusive. See Appendix 6 for a table which converts infant age in days to age in completed months.

Indicator	Definition	Numerator	Denominator
Indicator 3	Percent of infants between 6 and 10 months being fed complementary foods in addition to breastmilk [*Timely complementary feeding rate*] A 24-hour recall is used to determine whether the infant receives appropriate complementary feeding, defined as breastmilk and solid foods. "Solids" are defined as foods of mushy (semi-solid) or solid consistency, not fluids.	No. of infants 6 - <10 months given breastmilk and solid foods in the last 24 hours	Total No. of infants 6 - <10 months
Indicator 4	Percent of infants/children <24 months offered continued feeding[9] during diarrheal episode[10] in the past 2 weeks[11]	# of diarrhea cases among infants/children <24 months who were **offered** breastfeeding and/or foods with the same or greater frequency than usual Disaggregate by age: 0 - <6 months; 6 - <24 months	Total # of diarrhea cases among children <24 months in two weeks preceding the survey Disaggregate by age: 0 - <6 months; 6 - <24 months

9. Continued feeding: about the same or more food consumed during diarrhea than before diarrhea started. For purposes of this indicator, an infant 0 - <6 months who received continued breastfeeding is considered to have continued feeding.

10. Diarrhea is defined as three or more loose or watery stools in a 24-hour period, a loose stool being one that would take the shape of a collection container; or local definition of diarrhea. Diarrheal Episode: an episode of diarrhea begins with a 24-hour period with three or more loose or watery stools. An episode of diarrhea is considered to have ended after 48 hours without three or more loose or watery stools within a 24-hour period.

11. Wording changed from BHR generic indicator "Percent of infants/children <24 months given continued foods and breastmilk during diarrheal episode."

Indicator	Definition	Numerator	Denominator
Indicator 5	Percent of infants/children <24 months offered extra foods[12] (breastmilk and/or one extra meal/day) during the two weeks following a diarrheal episode[13,14]	No. of infants/children < 24 months who breastfed more frequently and/or were offered an additional meal/snack per day during the two weeks following the end of a diarrheal episode Disaggregate by age: 0 - <6 months; 6 - <24 months	Total No. of children <24 months whose diarrhea episodes ended in the two weeks preceding the survey Disaggregate by age: 0 - <6 months; 6 - <24 months
Optional Indicators 6, 7, and 8			

12. "Extra foods" is defined as one extra meal or snack per day and/or more frequent breastfeeding.

13. An episode of diarrhea is considered to have ended after 48 hours without three or more loose or watery stools within a 24-hour period.

14. A child is considered to be convalescing from diarrhea during the two weeks following completion of the diarrhea episode.

Recommended Questions for Calculation of Infant and Child Feeding Behavior Indicators

Table 2: Questions for BHR Child Feeding Impact Indicators	
Question	Response
1. Date of interview	__ __/__ __/__ __ mm dd yy[15]
2. Child's date of birth[16] [OR age calculated in completed months: __ __ months]	__ __/__ __/__ __ mm dd yy
3. Did you ever breastfed [NAME]?	1=NO. Skip to Q6. 2=YES. Continue below. 9=Don't Know (DK). Skip to Q6.
4. How long after birth did you first put [NAME] to the breast?	__ __ hours __ __ days If less than 1 hour, record 00 hours. If less than 24 hours, record hours. Otherwise, record days.
5. Since this time yesterday, have you breastfed [NAME]?	1=NO, 2=YES
6. Since this time yesterday, has [NAME] received any of the following?[17]	
a. Vitamins, mineral supplements, medicine	1=NO, 2=YES
b. Plain water	1=NO, 2=YES
c. Sweetened or flavored water	1=NO, 2=YES
d. Fruit juice	1=NO, 2=YES
e. Tea or infusions	1=NO, 2=YES

15. Use appropriate locally-used convention: mm/dd/yy (month/day/year) or dd/mm/yy (day/month/year).

16. Preferably from birth registry or other record. If not known, ask the child's age and record in completed months (e.g., if the child is <1month old, the age is 0 months; if the child is 11½ months old but has not reached his first birthday, then his age is 11 months).

17. List of liquids and foods to be developed locally and revised based on the pre-test. This list may be augmented to include common complementary (weaning) foods and other semisolid or solid foods that will help to inform program decision-making (e.g., foods rich in vitamin A if program is promoting vitamin A intake).

Question	Response
f. Infant formula	1=NO, 2=YES
g. Tinned, powdered, or fresh milk	1=NO, 2=YES
h. Other liquids[18]	1=NO, 2=YES
i. Mushy (semisolid) or solid foods[19]	1=NO, 2=YES
j. Oral rehydration salts (ORS) solution	1=NO, 2=YES

Questions on Infant and Child Feeding During Diarrhea

Question	Response
7. Has [NAME] had diarrhea[20] in the last 2 weeks?	1 = NO SKIP to Q14. 2 = YES 9 = DK SKIP to Q14.
8. **During** the last episode of diarrhea, did you offer [NAME] any of the following? (*Prompt and circle code for all items mentioned*.) **1=No 2=Yes 9=DK**	**No Yes DK**
a. Breastmilk	a. 1 2 9
b. Other liquids	b. 1 2 9
c. Mushy (semisolid) or solid foods	c. 1 2 9
If child received breastmilk, go to Q9. *Otherwise, SKIP to Q10.*	
9. **During** [NAME]s diarrhea, did [NAME] breastfeed less than usual, the same, or more?	1 = Less than usual 2 = About the same 3 = More than usual 9 = DK
If child received mushy or solid foods, go to Q10. *Otherwise, SKIP to Q11.*	

18. Includes broths and clear soups.

19. Includes cereal, porridge, thick soups, or stews.

20. A diarrheal episode is defined as three or more loose or watery stools per day, and/or blood in the stool on any day, or as defined by the mother. The term(s) used for diarrhea should encompass the locally-used expressions for all forms of diarrhea.

Question	Response
10. **During** [NAME]'s diarrhea, did you offer him/her less food in **total**, about the same, or more food than usual?	1 = Less than usual 2 = About the same 3 = More than usual 9 = DK

Questions on Infant and Child Feeding After Diarrhea	
Question	Response
11. Has [NAME] **recovered** from diarrhea in the past 2 weeks? *[Note that child must have been recovered from diarrhea for at least 48 hours for mother to answer this question.]*	1 = NO. SKIP to Q14. 2 = YES
If child is still breastfeeding, go to Q13. *Otherwise, SKIP to Q13.*	
12. In the days **after** [NAME]'s diarrhea, has s/he breastfed less than usual, the same, or more?	1 = Less than usual 2 = About the same 3 = More than usual 9 = DK
If child is receiving only breastmilk, SKIP to Q14. *Otherwise, continue.*	
13. In the days **after** [NAME]'s diarrhea, have you offered him/her fewer meals/snacks every day, about the same number, or more?	1 = Less than usual 2 = About the same 3 = More than usual 9 = DK
14. Any there other children in the target age range [0 - <24 months]?	1=NO. End Interview 2=YES: If mother has another child in target age range, repeats questions 1-6a-j for the older child.

Optional Questions		
Question		Response
Q1.	Since this time yesterday, has [NAME] been given anything to drink from a bottle with a nipple or teat?	1=NO 2=YES 9=DK
Q2.	**During** [NAME]'s diarrhea, did s/he drink much less, about the same, or more **total** fluid [including breastmilk and formula] than usual?	1=Less than usual 2=About the same 3=More than usual 9=DK

Table 3 indicates the questions that must be asked for calculation of a specific indicator. For example, to measure the timely complementary feeding rate, you need ask only questions 1, 2, 5, and 6a-6j.

Table 3: Questions Needed for Data Collection*		
Indicator	To calculate age	To calculate indicator (from Table 2)
1. Initiation of Breastfeeding in the First Hour of Life	1, 2	4
2. Exclusive Breastfeeding Rate, 0 - <6 months	1, 2	5, 6a-j
3. Timely Complementary Feeding Rate	1, 2	5, 6a-j
4. Continued Feeding during Diarrhea	1, 2	7, 8, 9, 10
5. Increased Feeding after Diarrhea	1, 2	11, 12, 13
Optional Indicators:		
6a. Continued Breastfeeding at 12 Months	1, 2	5
6b. Continued Breastfeeding at 24 Months	1, 2	5
7. Never breastfed rate	1, 2	3
8. Bottle-fed rate	1, 2	Q1

* From Prototype Questionnaire (Table 2)

3 Developing the Questionnaire — To be used with Table 2

Recommended Question Format

The questions in the prototype questionnaire (Table 2) are intended to provide the data essential for calculating the indicators in Table 1. The design of the questions is based on extensive research and testing to ensure valid and reliable results. Program managers are cautioned to follow the methodology prescribed below and avoid the common mistakes flagged. Too often, use of inappropriate questions has led to misunderstanding about child feeding practices in a community.

Use of Other Sources

In special circumstances, it may be possible to rely on secondary sources of data to determine infant and child feeding practices. These sources include the following:

- USAID Demographic and Health Surveys (DHS)
- UNICEF Multiple Indicator Surveys (MICS)
- World Health Organization (WHO) Household Surveys

These surveys usually include child feeding and diarrhea modules which can be very useful in describing characteristics of the target population (see Appendix 1 for examples). For example, the estimates of diarrhea and feeding rates can assist in determination of the sample size needed to measure change. (The reader is referred to the FANta Project Sampling Guide.)

The use of secondary data as a substitute for the Cooperating Sponsor gathering its own information assumes that the secondary data are available for the population being served by the Sponsor and that the timing for the survey is suitable for evaluation purposes of the Sponsor's program. In addition, care needs to be taken to ensure that the wording of questions follows the recommended formats presented in this guide.

In some circumstance, it may be possible to use existing data collection efforts for evaluating feeding practices. Caution is needed, however, as even experienced investigators who may lack specialized expertise in the measurement of infant and child feeding practices may suggest incorrect wording of questions. Results from incorrectly worded questions can be difficult to

interpret and will not be comparable to data collected by the standard methods proposed in this Guide.

Recommended Methodology for Questions 5 and 6

Recommended:

- 24-Hour Recall or "Current Status" Method

The 24-hour recall methodology used in this guide is recommended by WHO, UNICEF, and USAID-sponsored breastfeeding groups to measure feeding patterns. Respondents are asked whether an infant received any of a list of liquids and foods "since this time yesterday" or "at any time yesterday or last night." Unlike questions worded "Are you giving [NAME] _____?" or "Did you give [NAME] _____ ?," 24-hour recall questions clearly specify the reference time period, and are more consistent and comparable, and are therefore more useful for evaluation purposes. Recall bias is minimized compared to methods asking about a longer recall period.

Not Recommended:

- "Ever Consumption" of Liquids or Solids Method

This method asks whether a child has "ever received" or "ever consumed" other liquids or foods during a specified interval. The advantage of this method is that it provides the strictest definition of "exclusive breastfeeding." A problem occurs, however, because the data are more difficult to interpret than those from the 24-hour recall. For example, the response of a mother who has given her infant a drink of water only once will be the same as the mother who gives water daily. Trends based on "24-hour recall" data are not comparable with trend data from "ever introduced" questions.

- "First-Use" Questions

Asking the age at which other foods or liquids were *first* given to an infant, an approach sometimes chosen when the sample size is small, raises other problems. First, because of the time span over which mothers must remember, recollections are likely to be inaccurate. Second, when such data are used to determine the average duration of time to "first water use" or "first milk consumption," sophisticated analytic techniques are required.[21] Without these analytic techniques, accurate interpretation is impossible.

21. Life tables or survival analysis. These approaches to data analysis are needed when information is collected on when events occurred, unless everyone interviewed has experienced those events (e.g., had already consumed water). Infants who have not yet consumed water or milk cannot be included in the calculation of the average, and their omission biases the results.

- More than One Question

It is incorrect to fold two questions into one: for example, "How long do you plan to breastfeed or if you have already stopped, how long ago did you breastfeed?"

Consistent and Comparable Questionnaires in Repeat Surveys

To assess trends in infant feeding practices, the questions asked in each survey round must be comparable and coding instructions must be consistent. Inconsistency may lead to contradictory results. For example, two national family health surveys conducted in Honduras, one in 1987 and the second in 1991-92, showed changes in exclusive breastfeeding rates in opposite directions. The earlier survey, which included no questions on pre-lacteal feeds and had only a limited number of food items on the supplementary feeding list, showed an *increase* in the level of exclusive breastfeeding. When questions on pre-lacteal feeds and more supplementary food items were added in the second survey, however, the rate of exclusive breastfeeding *declined*. It was clearly the presence of questions that elicited information on additional feeding in the second survey that caused the difference.

Despite the dangers of non-comparable results, there are sometimes good reasons to change questions from one survey to the next. These can include the need to obtain information on practices not assessed in the first survey or to ask questions differently to obtain more accurate information. If questions are changed and items added or deleted between surveys, *all* the questions in the survey (both old and new) will have to be pretested and *all* the data obtained (from both new and previous questions) analyzed to determine whether the information obtained is comparable — or whether, as happened in Honduras, results are illogically different. As occurred there, the modified questions caused mothers to answer the old questions differently from in the previous survey.

4 Designing the Survey and Preparing the Staff

Pretesting

Though the basic questions should be adhered to, the details should be adapted, translated, and pre-tested to ensure they are appropriate to the local situation. The list of liquids and foods included in the 24-hour recall, for example (question 6) must be adapted as much as possible to reflect the local practices and the program focus (e.g., additions could include common local weaning foods and types of foods that are of particular interest to the local program, such as foods rich in vitamin A if the program is promoting vitamin A intake). Questions on water, non-human milk, infant formula and other liquids must be kept as separate categories.

The questionnaire will need to be translated by one person and then back-translated by another (independently translated back into the original language). The two versions can then be compared to ensure that the intent of the questions is retained. Any ambiguous or confusing words should be discussed and agreement reached on the correct translation. This is especially important for terms such as "diarrhea," where there may be several local terms which each impart a different meaning. It is important that translators be given clear definitions of all terms used in the questions.

Some phrases require particular attention: typical are "since this time yesterday," "mushy" or "semisolid," and "infant formula." Reviewing the questionnaire during interviewer training and the pre-test will help to identify such phrases.

The survey coordinator and one or two future supervisors or interviewers should be the first to pre-test and refine the draft questionnaire before interviewers start training. A final pretest can often be carried out during interviewer training. Questionnaires should not be copied in quantity until pre-testing is complete. Interviewer instructions (see Chapter 5) need to be translated with the same care given to the questionnaire translation.

Survey Design

Sample Size

To determine the sample size needed for evaluation purposes, the reader is referred to the FANta Sampling Guide. Sample size requirements specific to infant and child feeding will increase in the following cases:

- if there is a need to disaggregate feeding practice rates by smaller age intervals than required for the measurement of indicators, for example, 1 month intervals. This is most likely in cases of tracking progress in programs designed to extend the rate of exclusive breastfeeding since the rate can drop precipitously month-by-month during the first six months of life. If a sample size is too small to allow tracking by 1-month intervals (i.e., <50 in each age group), groups may be combined into larger intervals (1-2 months, 3-4 months, etc.).

- if the people being surveyed have different feeding practices for different children (e.g., boys are more likely to be breastfed than girls) or if there are subgroups within the population whose feeding practices differ from each other. In this case, subgroups will need to be sampled separately because they will need to be analyzed separately.

Sampling all Children in a Family within Specified Age Range

Calculation of infant and child feeding indicators requires that information be obtained on *all* children in the family within the specified age range (including children who were never put to the breast, i.e., "never breastfed"). For example, if there are two children in the family who are less than 24 months of age, information should be obtained on the feeding practices of both children. Last-born children are not a representative sample of all births; they may have a greater chance of experiencing prolonged breastfeeding, for example. If only last-born children are included in the survey, the findings may be biased, and the bias may not be equal among all populations.

Data Collection: Interviewer Selection, Training and Supervision

Obtaining accurate data on infant feeding behavior is complex, and therefore supervisors and interviewers who will be executing the questionnaire must be carefully selected, trained, and supervised.

In terms of selection, interviewers must have the interpersonal skills to gain the confidence of the mother, the aptitude for the attention to detail that interviewing about feeding practices demands, and the motivation and discipline that are required to maintain standard procedures throughout the duration of the field work. In some societies women may be reluctant to provide answers on sensitive issues such as breastfeeding to either male interviewers or interviewers who seem too young. Issues such as these will influence the selection criteria and will need to be determined on a program-by-program basis. Candidates for interviewer positions should be asked to fill out the "Interviewer Screening Form" (see Appendix 3). In addition to providing information on the candidate's qualifications, the process will show whether the candidate can properly complete a form.

All interviewers and supervisors should receive the same training. A few extra people should be recruited because of potential drop-outs during training and field work.

Team morale is easier to maintain when interviewers work in pairs, and quality control is facilitated when interviewers are able to consult one another on the selection of households and

other interviewing decisions. Supervisors should work alongside interviewers to monitor field activities, review completed questionnaire forms to ensure their accuracy and completeness, and identify and immediately correct problems encountered (see Appendix 4). This will often require spot-retraining of an interviewer in the field.

5 Instructions for Interviewers — To be used with Table 2

General Proviso

Whenever possible, data should be recorded as continuous numbers (1, 2, 3, .25) rather than categorical (1-4, 5-9, 10-14). For example, for the question "How long after birth did you first put [NAME] to the breast?," response data should be captured in hours (<1, 1, 2, 3, etc.) rather than in blocks of hours (e.g., 1-4, 5-8, 9-12) or days. This approach will retain the flexibility to analyze the data in different ways during data analysis.

Specific Questions

Questions Relating to Determination of Age

The appropriateness of infant feeding practices is closely linked to the child's age. Therefore, child age must be determined accurately to ensure a meaningful assessment of infant feeding practices and determination of trends over time.

Question 1. Date of interview: Enter the interview date as day/month/year (dd/mm/yy) or month/day/year (mm/dd/yy), depending on the local convention. Use a 0 in any spaces if the month or day does not contain 2 digits – for example, the month of March is coded as "03."

Question 2. Date of birth: Ask for the child's date of birth. It is important to capture this as accurately as possible. The best source is the birth certificate or other health record such as immunization or growth monitoring record. Before entering a date from these items, check with the mother to determine if she believes the date is accurate. Age is most accurately determined by subtracting the "birth date" from the "interview date" (see Appendix 6 for more details). While age calculated in months is the preferred way to obtain the child's age, the survey questionnaire should include separate questions to permit the interviewer to record either birthdate *or* age in months, depending on how the information is obtained.

If there is no birth certificate or other document, ask the mother for the child's birth date ("reported date"). If she is able to provide only the year of birth, but not the month, probe to try to estimate the month. Using a calendar referring to local events or other significant happenings (e.g., was the mother pregnant at Christmas or during Ramadan? Did she give birth after an election, during the wet or dry season?) will help to improve accuracy. As a last resort, the child's age may be determined in relationship to another child in the household whose birth date is known with greater certainty (Was the survey child born the year after the child born in 1985?). The age for each survey child must be determined, even if it is only a best estimate.

If pinpointing the child's birth date proves impossible, the interviewer may ask the child's age. Be alert to mothers' tendency to either round up the age (reporting that a child who is nearly two months old is in fact two months old) or to "heap" data at six-month intervals.

Question 3. This questions asks if the child has ever been breastfed. It asks about any breastfeeding experience of the child – not the mother. If the answer is "No" or "Don't Know" (DK), enter the correct number and skip to Question 6. If the answer is "Yes," enter the correct number and go to Question 4.

Question 4. Enter the mother's response. If the infant was first put to the mother's breast "immediately" or in less than one hour, enter "00." If this occurred in less than 24 hours, enter the correct number in "hours." Otherwise, record the number of days: 24-48 hours = 02 days; 48-72 hours = 03 days. If the mother does not know, enter "99."

Question 5. Enter code for the mother's response.

Question 6. The purpose of this question is to determine what other liquids or foods the child was given in the past 24 hours. Ask each possible answer in turn – for example, "Since this time yesterday, has [NAME] received vitamin or mineral supplements or medicine? Did s/he receive plain water?," etc. Circle the appropriate code for each answer.

Questions Relating to Feeding During and After Diarrhea

These questions aim to determine if the child has recently had diarrhea, and if so, whether the child was offered continued feeding during and increased feeding after the episode. A diarrhea episode is defined as 3 or more loose or watery stools per day, and/or blood in the stool on any day, or as defined by the mother. The term(s) used for diarrhea should encompass the locally used expressions for all forms of diarrhea.

Question 7. Record the mother's answer. If the respondent is not certain of what is meant by diarrhea, explain the definition as stated above. Make certain the respondent understands what is meant by "in the last 2 weeks."

If the child has had diarrhea in the last 2 weeks, enter the code for "Yes" and continue with Question 8. If the child has not had a recent episode of diarrhea (within the last 2 weeks), enter the code for "No" or "Don't Know" and skip the remainder of the questions on diarrhea.

Question 8. If the child has had diarrhea, the question will determine if the child had been offered breastmilk or other foods during the diarrheal episode. Ask the care giver if during the diarrheal episode the child was offered any breastmilk, other liquids, or any type of solid or mushy food. This question is focusing on the offering of these foods not whether or not the child actually ate the food. Prompt the care giver for the answer as a YES, NO, or DK (Don't know). Make sure each type of food is asked about.

Questions 9 & 10. The purpose of this question is to determine whether the child was offered the breast and/or food with the same frequency during the diarrheal episode as prior to the illness. Make certain that the mother understands that it is the mother's behavior, not the child's response, that is the focus of this question.

Question 11. This question is designed to determine if the child has recovered from the diarrheal episode. A child who has not had 3 or more loose stools (diarrhea) in the past 2 days is considered to be recovered, and the mother should be asked Questions 12 & 13. For children still suffering from diarrhea, skip Questions 12 & 13 and proceed to Question 14.

Questions 12 & 13. The purpose of this question is to determine whether the child who is recuperating from diarrhea was offered the breast and/or food with greater frequency than prior to the illness. Again, the question is asking about the mother's behavior, not the child's response.

Question 14. The purpose of Question 11 is to remind the interviewer to return to Question 1 to obtain information on the second child if the mother has 2 children less than 24 months of age.

6 Calculating and Interpreting the Indicators — To be used with Tables 1 and 2

Calculating the Indicators

Table 3 (page 11) provides instructions on how to calculate the indicators from the questions in Table 2 (page 8). It indicates the several questions from which the data for both numerator and denominator (the total number of children in the data set who meet the age criteria) should be drawn. Calculating the percentage (the indicator) involves dividing the numerator by the denominator and multiplying the result by 100. Appendix 5 provides examples of how the exclusive breastfeeding rate and timely complementary feeding rate are derived from survey data.

The age of each child will have to be calculated in most cases from whatever record is available of the child's birth date. The calculation involves subtracting the child's date of birth from the date of interview. Results should be shown as "completed months." Age 0 - <6 months is defined as completed months 0, 1, 2, 3, 4 and 5. Age 0 - <24 months is defined as completed months 0 - 23 inclusive. A child who is 1 month and 25 days old is still considered 1 month old.

To avoid errors, calculation of a child's age should be done by computer, using appropriate software. Instructions on how to calculate age in either Epi Info or SPSS are given in Appendix 6.

Interpreting the Indicators: The Importance of Age

Feeding indicators are constructed to measure the behavior of infants within a certain age group or "period window" (e.g., to report on the percentage of infants 0 - <6 months who are exclusively breastfed). Such indicators reflect the *average* percentage of infants who are fed according to the recommendations. An exclusive breastfeeding rate of 30 percent for infants <6 months means that 70 percent of infants are not fed according to recommendations. It does not, however, show the age patterns of exclusive breastfeeding (i.e., what proportion of infants are not being breastfed, and what proportion are exclusively breastfed at months 1, 2, 3, etc.). Between two groups of children <6 months, the group that has the greater proportion of very young infants is likely to have a higher rate of exclusive breastfeeding.

This has two important implications:

- *Program Evaluation Implications:* a program may appear more or less effective depending on the distribution of infants across age categories in either program/non-program or baseline/follow-up survey samples. One way to obtain a more precise picture of what is

happening is to break down the 6-month time span into shorter periods of time (of 1 or 2 months) as described in the section on sampling in Chapter 4.

- *Comparison to Other Data:* When program results are compared to results provided by regional, national, or international surveys, the distribution of age categories must be similar to those of the sample on which the other statistics are based; if they are not, the program results cannot be reliably compared. Attention to careful sampling procedures is the best insurance of well-distributed age data. If a problem exists with regard to age distribution, an analyst experienced in handling infant and young child feeding data will be able to provide advice on how to proceed.

References

Carolina Population Center, University of North Carolina at Chapel Hill. *Indicators for Reproductive Health Program Evaluation: Final Report of the Subcommittee on Breastfeeding*. Chapel Hill, NC. December 1995.

Huffman, Sandra L. et al. *The Honduran Contradiction: Can Exclusive Breast-feeding Increase and Decrease at the Same Time?* Unpublished paper. December 1996.

Lung'aho, M. S., S. L. Huffman, M. H. Labbok, A. E. Sommerfelt, and E. J. Baker. *Tool Kit for Monitoring and Evaluating Breastfeeding Practices and Programs.* Wellstart International, San Diego, CA. September 1996.

Macro International. Demographic and Health Surveys, Phase III. *Model "A" Questionnaire*. DHS-III Basic Documentation, Number 1. Calverton, MD. December 1995.

Sommerfelt, A. E., T. Wardlaw, and L. Lhotska. Draft of forthcoming UNICEF/DHS publication summarizing breastfeeding practices.

UNICEF. *Monitoring Progress Toward the Goals of the World Summit for Children. A Practical Handbook for Multiple-Indicator Surveys*. Planning Office, Evaluation and Research Office, Programme Division. New York, NY. January 1995.

World Health Organization. *Catalogue of Health Indicators. A Selection of Important Health Indicators Recommended by WHO Programmes*. Division of Health Situation and Trend Assessment. Geneva, Switzerland. August 1996.

World Health Organization. *Indicators for Assessing Breast-feeding Practices*. Report of an Informal Meeting, 11-12 June 1991. Geneva, Switzerland.

Appendix 1
Model Questionnaire Modules

DEMOGRAPHIC AND HEALTH SURVEYS
MODEL "A" QUESTIONNAIRE
BREASTFEEDING MODULE

425	Did you ever breastfeed (NAME)?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 431)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 431)
426	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY . . . . . 000 HOURS . . . . . 1 DAYS 2	IMMEDIATELY . . . . . 000 HOURS . . . . . 1 DAYS 2
427	CHECK 404: CHILD ALIVE?	ALIVE DEAD (SKIP TO 429)	ALIVE DEAD (SKIP TO 429)
428	Are you still breastfeeding (NAME)?	YES . . . . . 1 (SKIP TO 432) NO 2	YES . . . . . 1 (SKIP TO 432) NO 2
429	For how many months did you breastfeed (NAME)?	MONTHS . . . . . . DON'T KNOW 98	MONTHS . . . . . . DON'T KNOW 98
430	Why did you stop breastfeeding (NAME)?	MOTHER ILL/WEAK . . . . . 01 CHILD ILL/WEAK . . . . . 02 CHILD DIED . . . . . 03 NIPPLE/BREAST PROBLEM . 04 NOT ENOUGH MILK . . . . . 05 MOTHER WORKING . . . . . 06 CHILD REFUSED . . . . . 07 WEANING AGE/AGE TO STOP . . . . . 08 BECAME PREGNANT . . . . . 09 STARTED USING CONTRACEPTION . . . . . 10 OTHER_____96 (SPECIFY)	MOTHER ILL/WEAK . . . . . 01 CHILD ILL/WEAK . . . . . 02 CHILD DIED . . . . . 03 NIPPLE/BREAST PROBLEM . 04 NOT ENOUGH MILK . . . . . 05 MOTHER WORKING . . . . . 06 CHILD REFUSED . . . . . 07 WEANING AGE/AGE TO STOP . . . . . 08 BECAME PREGNANT . . . . . 09 STARTED USING CONTRACEPTION . . . . . 10 OTHER_____96 (SPECIFY)
431	CHECK 404: CHILD ALIVE?	ALIVE DEAD (SKIP TO 434) (GO BACK TO 405 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 440)	ALIVE DEAD (SKIP TO 434) (GO BACK TO 405 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 440)
432	How many times did you breastfeed last night between sunset and sunrise? IF ANSWER IS NOT NUMERIC PROBE FOR APPROXIMATE NUMBER.	NUMBER OF NIGHTTIME FEEDINGS	NUMBER OF NIGHTTIME FEEDINGS

433	How many times did you breastfeed yesterday during the daylight hours? IF ANSWER IS NOT NUMERIC PROBE FOR APPROXIMATE NUMBER.	NUMBER OF DAYLIGHT FEEDINGS	NUMBER OF DAYLIGHT FEEDINGS
434	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8
435	At any time yesterday or last night, was (NAME) given any of the following:[5] Plain water? Sugar water? Juice? Herbal tea? Baby formula? Tinned or powdered milk? Fresh milk? Any other liquid? Any food made from [WHEAT, MAIZE, RICE, SORGHUM or LOCAL GRAIN] such as [PORRIDGE, BREAD, or NOODLES]? Any food made from [CASSAVA, PLANTAIN, YAMS, or LOCAL TUBER]? Eggs, fish or poultry? Meat? Any other solid or semi-solid foods?	YES NO DK PLAIN WATER . . . . . 1 2 8 SUGAR WATER . . . . . 1 2 8 JUICE . . . . . 1 2 8 HERBAL TEA . . . . . 1 2 8 BABY FORMULA . . . . . 1 2 8 TINNED/ POWDERED MILK . . . 1 2 8 FRESH MILK . . . . . 1 2 8 OTHER LIQUIDS . . . . . 1 2 8 FOOD MADE FROM [GRAIN] . . . . . 1 2 8 FOOD MADE FROM [TUBER] . . . . . 1 2 8 EGGS/FISH/POULTRY 1 2 8 MEAT . . . . . 1 2 8 OTHER SOLID/SEMI-SOLID FOODS 1 2 8	YES NO DK PLAIN WATER . . . . . 1 2 8 SUGAR WATER . . . . . 1 2 8 JUICE . . . . . 1 2 8 HERBAL TEA . . . . . 1 2 8 BABY FORMULA . . . . . 1 2 8 TINNED/ POWDERED MILK . . . 1 2 8 FRESH MILK . . . . . 1 2 8 OTHER LIQUIDS . . . . . 1 2 8 FOOD MADE FROM [GRAIN] . . . . . 1 2 8 FOOD MADE FROM [TUBER] . . . . . 1 2 8 EGGS/FISH/POULTRY 1 2 8 MEAT . . . . . 1 2 8 OTHER SOLID/SEMI-SOLID FOODS 1 2 8
436	CHECK 435: FOOD OR LIQUID GIVEN YESTERDAY?	"YES" TO ONE MORE "NO/DK" TO ALL (SKIP TO 438)	"YES" TO ONE MORE "NO/DK" TO ALL (SKIP TO 438)
437	(Aside from breastfeeding,) how many times did (NAME) eat yesterday, including both meals and snacks? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES . . . . . . DON'T KNOW 8	NUMBER OF TIMES . . . . . . DON'T KNOW 8
438	On how many days during the last seven days was (NAME) given any of the following:[5] Plain water? Any kind of milk (other than breast milk)? Liquids other than plain water or milk? Food made from [WHEAT, MAIZE, RICE, SORGHUM, or LOCAL GRAIN]? Food made from [CASSAVA, PLANTAIN, YAMS, or LOCAL TUBER]? Eggs, fish, or poultry? Meat? Any other solid or semi-solid foods? IF DON'T KNOW, RECORD '8'.	RECORD THE NUMBER OF DAYS. PLAIN WATER . . . . . . MILK . . . . . . OTHER LIQUIDS . . . . . . FOOD MADE FROM [GRAIN] . . . . . . FOOD MADE FROM [TUBER] . . . . . . EGGS/FISH/POULTRY . . . . . MEAT . . . . . . OTHER SOLID/SEMI-SOLID FOODS	RECORD THE NUMBER OF DAYS. PLAIN WATER . . . . . . MILK . . . . . . OTHER LIQUIDS . . . . . . FOOD MADE FROM [GRAIN] . . . . . . FOOD MADE FROM [TUBER] . . . . . . EGGS/FISH/POULTRY . . . . . MEAT . . . . . . OTHER SOLID/SEMI-SOLID FOODS . . . . . .

439		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 440.	GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 440.

[1] For fieldwork beginning in 1995, 1996, or 1997, the year should be 1992, 1993, or 1994, respectively.

[2] Coding categories to be developed locally and revised based on the pretest; however, the broad categories must be maintained. It is also important to select the appropriate term for "antenatal care".

[3] Vaccination practices may vary; this question should specify where the injection is given, e.g. arm or shoulder.

[4] Coding categories to be developed locally and revised based on the pretest; however, the broad categories must be maintained.

[5] List of liquids and foods to be adapted locally and revised based on the pretest. Additional liquids or foods should be added to include common weaning foods. All items shown here should be included.

DEMOGRAPHIC AND HEALTH SURVEYS
MODEL "A" QUESTIONNAIRE
BREASTFEEDING MODULE

454	Has (NAME) had diarrhea in the last 2 weeks?[5]	YES . . . . . 1 NO . . . . . 2 (SKIP TO 464))))))))1 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 464))))))))1 DON'T KNOW 8
455	Was there any blood in the stools?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8
456	On the worst day of the diarrhea, how many bowel movements did (NAME) have?	NUMBER OF BOWEL MOVEMENTS . . . . . +)))0)))*!!!*!!!*.)))2)))- DON'T KNOW 98	NUMBER OF BOWEL MOVEMENTS . . . . . +)))0)))*!!!*!!!*.)))2)))- DON'T KNOW 98
457	Was he/she given the same amount to drink as before the diarrhea, or more, or less?	SAME . . . . . 1 MORE . . . . . 2 LESS . . . . . 3 DON'T KNOW 8	SAME . . . . . 1 MORE . . . . . 2 LESS . . . . . 3 DON'T KNOW 8
458	Was he/she given the same amount of food to eat as before the diarrhea, or more, or less?	SAME . . . . . 1 MORE . . . . . 2 LESS . . . . . 3 DON'T KNOW 8	SAME . . . . . 1 MORE . . . . . 2 LESS . . . . . 3 DON'T KNOW 8
459	When (NAME) had diarrhea, was he/she given any of the following to drink:[1]	YES NO DK	YES NO DK
	A fluid, made from a special packet called [LOCAL NAME]?	FLUID FROM ORS PKT 1 2 8	FLUID FROM ORS PKT 1 2 8
	Thin watery gruel made from [RICE OR OTHER LOCAL GRAIN, TUBER, PLANTAIN]?	THIN WATERY GRUEL 1 2 8	THIN WATERY GRUEL 1 2 8
	Soup?	SOUP 1 2 8	SOUP 1 2 8
	Home-made sugar-salt-water solution?	SUG.-SALT-WAT. SOL. 1 2 8	SUG.-SALT-WAT. SOL. 1 2 8
	[LOCAL UNACCEPTABLE FLUID]?	[UNACCEPTABLE FL.] . 1 2 8	[UNACCEPTABLE FL.] . 1 2 8
	Milk or infant formula?	MILK/INFANT FORM. . . 1 2 8	MILK/INFANT FORM. . . 1 2 8
	Yoghurt-based drink?	YOGHURT-BASED DR. 1 2 8	YOGHURT-BASED DR. 1 2 8
	[OTHER LOCAL ACCEPTABLE FLUID]?	[ACCEPTABLE FL.] 1 2 8	[ACCEPTABLE FL.] 1 2 8
	Water?	WATER 1 2 8	WATER 1 2 8
	Any other liquid?	OTHER LIQUID 1 2 8	OTHER LIQUID 1 2 8
460	Was anything (else) given to treat the diarrhea?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 462))))))))1 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 462))))))))1 DON'T KNOW 8
461	What was given to treat the diarrhea?[6] Anything else? RECORD ALL MENTIONED.	RECOMMENDED HOME FLUID . . . . . A PILL OR SYRUP . . . . . B INJECTION . . . . . C (I.V.) INTRAVENOUS . . . . . D HOME REMEDIES/ HERBAL MEDICINES . . . . . E OTHER _____ X (SPECIFY)	RECOMMENDED HOME FLUID . . . . . A PILL OR SYRUP . . . . . B INJECTION . . . . . C (I.V.) INTRAVENOUS . . . . . D HOME REMEDIES/ HERBAL MEDICINES . . . . E OTHER _____ X (SPECIFY)
462	Did you seek advice or treatment for the diarrhea?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 464))))))))-	YES . . . . . 1 NO . . . . . 2 (SKIP TO 464))))))))-

463	Where did you seek advice or treatment?[4] Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL . . . . . A GOVT. HEALTH CENTER . . . B GOVT. HEALTH POST . . . . . C MOBILE CLINIC . . . . . D COMM. HEALTH WORKER . . E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC . . . . G PHARMACY . . . . . H PRIVATE DOCTOR . . . . . I MOBILE CLINIC . . . . . J COMM. HEALTH WORKER . . K OTHER PRIVATE MEDICAL _____ L (SPECIFY) OTHER SOURCE SHOP . . . . . M TRAD. PRACTITIONER . . . . . N OTHER _____ X (SPECIFY)	PUBLIC SECTOR GOVT. HOSPITAL . . . . . A GOVT. HEALTH CENTER . . . B GOVT. HEALTH POST . . . . . C MOBILE CLINIC . . . . . D COMM. HEALTH WORKER . E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC . . . . G PHARMACY . . . . . H PRIVATE DOCTOR . . . . . I MOBILE CLINIC . . . . . J COMM. HEALTH WORKER . K OTHER PRIVATE MEDICAL _____ L (SPECIFY) OTHER SOURCE SHOP . . . . . M TRAD. PRACTITIONER . . . . . N OTHER _____ X (SPECIFY)
464		GO BACK TO 442 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.	GO BACK TO 442 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.

[1] For fieldwork beginning in 1995, 1996, or 1997, the year should be 1992, 1993, or 1994, respectively.

[2] To be developed locally since immunization practices may vary from country to country, as may the terms used for the written record and for the vaccinations.

[3] Adapt question locally after determining the most common injection site (usually the left arm or shoulder). Children under 3 years will be checked for a BCG scar, normally during the height and weight measurement in Section 9.

[4] Coding categories to be developed locally and revised based on the pretest; however, the large coding categories must be maintained.

[5] The term(s) used for diarrhea should encompass the expressions used for all forms of diarrhea, including bloody stools (consistent with dysentery), watery stools, etc.

[6] The response categories should be adapted to include the terms used locally for the recommended home fluid. The ingredients promoted by the National Control of Diarrheal Diseases Program or by the Ministry of Health for making the recommended home fluid should be reflected in the categories.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
465	When a child has diarrhea, should he/she be given less to drink than usual, about the same amount, or more than usual?	LESS TO DRINK . . . . . 1 ABOUT SAME AMOUNT TO DRINK . . 2 MORE TO DRINK . . . . . 3 DON'T KNOW 8	
466	When a child has diarrhea, should he/she be given less to eat than usual, about the same amount, or more than usual?	LESS TO EAT . . . . . 1 ABOUT SAME AMOUNT TO EAT . . . . 2 MORE TO EAT . . . . . 3 DON'T KNOW 8	
467	When a child is sick with diarrhea, what signs of illness would tell you that he or she should be taken to a health facility or health worker? RECORD ALL MENTIONED.	REPEATED WATERY STOOLS . . . . . A ANY WATERY STOOLS . . . . . B REPEATED VOMITING . . . . . C ANY VOMITING . . . . . D BLOOD IN STOOLS . . . . . E FEVER . . . . . F MARKED THIRST . . . . . G NOT EATING/NOT DRINKING WELL . H GETTING SICKER/VERY SICK . . . . . I NOT GETTING BETTER . . . . . J OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
468	When a child is sick with a cough, what signs of illness would tell you that he or she should be taken to a health facility or health worker? RECORD ALL MENTIONED.	FAST BREATHING . . . . . A DIFFICULT BREATHING . . . . . B NOISY BREATHING . . . . . C FEVER . . . . . D UNABLE TO DRINK . . . . . E NOT EATING/NOT DRINKING WELL . F GETTING SICKER/VERY SICK . . . . . G NOT GETTING BETTER . . . . . H OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
469	CHECK 459, ALL COLUMNS: NO CHILD RECEIVED ORS / ANY CHILD RECEIVED ORS		) 501
470	Have you ever heard of a special product called [LOCAL NAME] you can get for the treatment of diarrhea?	YES . . . . . 1 NO 2	

UNICEF - MICS
MODEL QUESTIONNAIRE MODULES - BREASTFEEDING MODULE

Questions	Response
1. HAS [NAME] EVER BEEN BREASTFED? Yes 1 No 0 ⇨GO TO NEXT MODULE OR QUESITON 4, IF INCLUDED DK 9 ⇨GO TO NEXT MODULE OR QUESITON 4, IF INCLUDED	
2. IS HE/SHE STILL BEING BREASTFED? Yes 1 No 0 ⇨GO TO NEXT MODULE OR QUESITON 4 AND/OR 5, IF INCLUDED DK 9 ⇨GO TO NEXT MODULE OR QUESITON 4, IF INCLUDED	
3. SINCE THIS TIME YESTERDAY, DID HE/SHE RECEIVED ANY OF THE FOLLOWING? Prompt **and** circle code for all items mentioned. **1 = Yes 2 = No 9 = DK**	Y N DK
3A. vitamin, mineral supplements or medicine	3A. 1 0 9
3B. plain water	3B. 1 0 9
3C. sweetened, flavoured water or fruit juice or tea or infusion	3C. 1 0 9
3D. oral rehydration solution (ORT)	3D. 1 0 9
3E. tinned, powered or fresh milk or infant formula	3E. 1 0 9
3F. any other liquids (specify: _____)	3F. 1 0 9
3G. solid or semi-solid (muchy) food	3G. 1 0 9
3H. received ONLY breast milk	3F 1 0 9
4. ***Optional question***: SINCE THIS TIME YESTERDAY, HAS [NAME] BEEN GIVEN ANYTHING TO DRINK FROM A BOTTLE WITH A NIPPLE OR TEAT? Yes 1 No 0 DK 9	
5. ***Optional question*** (for countries where breastfeeding durations are very short - i.e. less than 6 months): IF [NAME] IS NO LONGER BREASTFED, AT WHAT AGE WAS BREASTFEEDING STOPPED? (Record age in months. If mother does not know, record 99.)	

Appendix 2
The Indicators: Definitions, Measurement, Purpose, and Issues

This appendix is an exposition of Table 1. It restates the definition and measurement of all indicators and expands on the purpose of each and on issues that may arise around them. It also suggests several optional indicators.

Indicator 1. Percent of Infants/Children <24 Months Breastfed Within the First Hour of Life *(Timely Initiation of Breastfeeding Rate)*[22]

Definition:

This indicator defines the percentage of infants and young children <24 months who were put to the breast within one hour of birth.

Measurement:

Numerator: Number of infants 0 - <24 months of age who were put to the breast within 1 hour of birth

Denominator: Total number of infants 0 - <24 months of age

See Table 2 for the questions to be asked to obtain data to calculate this indicator.

Purpose:

The purpose of this indicator is to assess whether mothers initiate early breastfeeding with its respective benefits to both mother and infant. Optimal practice, defined as putting the infant to the breast within one hour of delivery, ensures that the baby receives colostrum, the early breastmilk that contains high concentrations of nutrients and antibodies that protect the infant from infection. Breastfeeding immediately after delivery will facilitate placenta expulsion and uterine contraction, reducing the risk of postpartum hemorrhage. Immediate initiation will help to establish milk flow and prevent breast engorgement. When the infant remains with the mother and is put to the breast soon after delivery, mothers are likely to encounter fewer problems and maintain breastfeeding for a longer period.

---

22. Names in parentheses are commonly used indicator labels. Note that Indicator 1 has been changed from the FFP Indicator "Percent of Infants/Children <24 Months Breastfed Within the First 8 Hours."

Issues:

- **Comparison with earlier program results:** If a program has previously reported initiation within 8 hours of birth, these results can be compared with initiation in accordance with the preferred indicator (initiation within 1 hour). To standardize a comparison of rates of initiation within the first hour may require a recalculation of the earlier program results if the data were coded for the initiation of breastfeeding within eight hours of birth. If the data from the first survey were coded for the first eight hours only, the analyst will have to go back to the original questionnaires to get the information and have the data entered. If the data were entered for both the first hour and within eight hours of birth, a recalculation can be performed relatively easily to enable a comparison.

- **Recall bias:** The FFP indicator suggests measuring this indicator on all infants 0 - <24 months. This denominator is very broad and may introduce significant recall bias. Women may have special difficulty remembering when they initiated breastfeeding and whether this was within 1 hour of birth. The error is likely to be particularly great for women attempting to recall information about the older child when the mother has two children <24 months. Other groups have recommended calculation of this indicator for infants 0 - <12 months. The 0 - <24 month indicator may also obscure changes that have occurred during the period of measurement.

- **Facility-based data:** The indicator could also be calculated from facility (or program) level data collected through facility-based observations or exit surveys. This version of the indicator is:

  Numerator: Number of infants discharged during reference period who were put to the breast one hour after birth
  Denominator: Total number of infants discharged during reference period

Because there is less recall bias in facility-level data collection, results are not comparable with population-based indicators. Individual facility-based rates would need to be aggregated to determine population-level trends. They would be *inappropriate* in settings where home births are occurring, because in such cases an important segment of the population is not giving birth in health facilities and thus would be excluded from the indicator.

Indicator 2. Percentage of Infants Less than 6 Months Given Only Breastmilk *(Exclusive Breastfeeding Rate)*

Definition:

This indicator shows the percentage of infants 0 - <6 months who are currently being exclusively breastfed, i.e., who are receiving only breastmilk and no water, other liquids or solids. Drops or syrups of vitamins, mineral supplements, or medicines are allowed.

Measurement:

Numerator: Number of infants 0 - <6 months exclusively breastfed
Denominator: Total number of infants 0 - <6 months

This indicator requires information on the intake of liquids and solids for the 24-hour period just prior to the interview. For an infant to be classified as exclusively breastfed, responses to Questions 6b through 6j (Table 2) must be NO. An infant may receive "vitamins, mineral supplements, medicines" (YES to Q6a) and still be considered exclusively breastfed. Vitamins/medicines may *not* be diluted with water, however.

It is likely that many infants will not be exclusively breastfed. To ensure that data collected may be compared with those from the WHO Household Surveys, DHS and UNICEF-MICS surveys, and to inform program decisions, separate questions are asked about the provision of different kinds of liquids, including water, tea or other infusions, juice, animal milks, infant formula and other liquids.

Purpose:

This indicator provides a measure of the degree to which women have adopted behaviors consistent with the WHO recommendation that infants should be fed exclusively on breastmilk from birth to about six months. The indicator is influenced by both the percentage of infants who are never breastfed (see Optional Indicator 7, Table 3) and the duration of exclusive breastfeeding in the population.

Issues:

If **retrospective data** (i.e., questions about whether the child "ever" had _____?") are collected, the **results are not comparable to 24-hour recall data**. Use of questions phrased "Are you giving (NAME) _____?" is not recommended, as the data are difficult to interpret.

Since infant feeding practices vary by age, variation of the age-distribution of the sample (whether due to survey methodology, sampling error or seasonality of births) could affect the calculated exclusive breastfeeding rate. For example, in a sample with many more 0 and 1-month old than 4-month-old children, the rate of exclusive breastfeeding is likely to be higher. In this case, it is recommended that the percentage exclusively breastfed be adjusted by assuming that the number of births each month is constant.

Intermediate Indicators:

The recommended reporting indicator for exclusive breastfeeding is the exclusive breastfeeding rate for infants 0 - <6 months. If, however, the program is far from achieving the goal of exclusive breastfeeding rate for 6 months and the sample size is sufficient, feeding behavior may be tracked for smaller age intervals (0 - <4 months, 0 - <2 months, 2- <4 months).

Indicator 3. Percentage of Infants Between 6 and 10 Months Being Fed Complementary Foods in Addition to Breastmilk *(Timely Complementary Feeding Rate)*

Definition:

The indicator gives an overall measure of the degree to which women have complied with the recommendation that infants aged 6 - <10 months receive appropriate and adequate complementary foods in addition to breastmilk.

Measurement:

Numerator: Number of infants 6 - <10 months given breastmilk and solid foods in the last 24 hours

Denominator: Total number of infants 6 - <10 months

Purpose:

The complementary feeding indicator is intended as a basic, simple indicator of feeding patterns among children in the age group 6 - <10 months. By this age, infants should be receiving solid foods in addition to breastmilk.

Issues:

The timely complementary feeding indicator provides minimal information to assess whether children are fed according to guidelines. It does not contain information about how frequently a child is given solid foods, nor about food quantity or food quality. The indicator can be modified to provide more detailed information about these aspects of feeding practices by collecting additional information from the mother (e.g., cereal, porridge, thick soups, or stews (see DHS Questionnaire in Appendix 1).

Even if the information collected is expanded beyond the basic questions of whether the child received breastmilk and/or solid foods in the last 24 hours, the basic indicator should also always be reported so that it is possible to make consistent comparisons of feeding practices across population subgroups or over time.

Indicator 4. Percentage of Infants/Children <24 Months Offered Continued Feeding during Diarrheal Episode[23]

Definition:

The indicator gives the percentage of all infants/children <24 months who were offered continued feeding (i.e., offered breastfeeding *and/or* foods with the same or greater frequency) during a diarrheal episode in past two weeks.

Numerator: Number of children <24 months who were offered continued feeding during the diarrheal episode

Denominator: Total number of children <24 months who had a diarrheal episode in the last two weeks

Purpose:

This indicator measures the change in *frequency* with which foods are *offered* during diarrhea compared to when the child is healthy.

This indicator is a measure of the mother's reported behavior rather than that of the child. Thus, the question asks whether there was a change in the child's *opportunity* to continue to breastfeed and eat food and not whether the child did, in fact, eat or breastfeed with the same or greater frequency or eat the same/greater amount. The reality that many children will eat much less when ill no matter how hard a caretaker tries to feed them is recognized in the focus on maternal behavior.

Issues:

This measure is useful for monitoring the quality of home care for childhood diarrhea and is a measure of whether the caretaker is following program messages about the management of childhood diarrhea. The indicator is not dependent upon *appropriate* feeding behavior (i.e., the mother of 2-month old non-breastfed child who continues to offer foods with the same or greater frequency during diarrhea is in compliance with the recommendation to continue feeding during diarrhea, even though she is not following the recommendation to exclusively breastfeed). The exclusively breastfed child who is breastfed as frequently or more frequently during a diarrheal episode is considered to have received "continued feeding."

23. Indicator name changed from "Percent of Infants/Children <24 Months Given Continued Foods and Breastmilk during Diarrheal Episode," used in the List of Generic Title II Indicators.

The definition of "diarrhea" corresponds to that used in the UNICEF-MICS and is recommended by WHO.[24] The selection of infants and children with diarrhea in the past 2 weeks reflects the most commonly accepted method of survey documentation of diarrheal disease. Longer periods introduce serious problems with recall of diarrheal episodes. Limiting inquiries to shorter time periods would require increased sample size. Use of a target age group 0 - <24 months focuses attention on the most vulnerable age group.

Indicator 5. Percentage of Infants/Children <24 Months Offered Additional Food (Breastmilk and/or One Extra Meal or Snack/Day) during the Two Weeks following a Diarrheal Episode[25] *(Increased Feeding after Diarrhea Rate)*

Definition:

The indicator gives the percentage of children <24 months offered more food (i.e., breastfed more frequently **and/or** offered one extra meal/snack per day) in the 2-week period following the end of a diarrheal episode.

Measurement:

Numerator: Number of children <24 months who were offered additional food during the two-week period following a diarrheal episode

Denominator: Total number of children <24 months who recovered from diarrhea during the two weeks preceding the survey

Purpose:

The purpose of this indicator is to monitor progress toward the recommendation that the child be given more food during the recuperative period following a diarrheal episode. This indicator, like indicator 4, is a measure of the mother's, not the child's, behavior.

Issues:

The indicator measures the mother's compliance with the recommendation that feeding be increased during the convalescent period following diarrheal illness; it does not assess *age-appropriate* feeding behavior (i.e., the mother of non-breastfed 4-month old who offers an extra

24. Catalogue of Health Indicators: A Selection of Important Health Indicators Recommended by WHO Programmes. August, 1996. WHO, Geneva.

25. Changed from "Increased % of infants/children <24 months given extra foods (one extra meal/day) and breastmilk following a diarrheal episode for at least two weeks," used in the List of Generic Title II Indicators.

meal/snack is in compliance with the recommendation to increase feeding during convalescence, even though she is not following the recommendation to exclusively breastfeed an infant <6 months).

Optional Indicators 6-8. Other Improved Food/Feeding Practices

Additional indicators of improved feeding practices are included below. It is recommended that programs consider measuring indicator 6a in addition to recommended indicators 1-5. Other indicators should be considered for measurement depending on the situation in the project area.

Optional Indicator 6a. Continued Breastfeeding at 12 Months Rate

Definition:

The percentage of children 12 - <16 months who are breastfed.

Measurement:

Numerator: Children 12 - <16 months breastfed in the last 24 hours
Denominator: Live children 12 - <16 months

Measurement requires a representative sample of children 12 - <16 months; the current age of the child; and the mother's recall of breast feeding during the 24-hours preceding the survey.

Purpose and Issues:

This is a measure of breastfeeding duration. The 4-month cross-section makes the indicator more reliable and useful with smaller samples.

Optional Indicator 6b. Continued Breastfeeding at 24 Months

This indicator is a measure of the percentage of children 20 - <24 months of age who are breastfed. The indicator is identical in every way to Indicator 6a except for the age of the children measured.

Optional Indicator 7. Never Breastfed Rate

Definition:

The percentage of live-born infants never given breastmilk, in a reference time period.

Measurement:

Numerator: Number of children born in the last three/five years before survey never receiving breastmilk
Denominator: Number of *live* births in the last three/five years before survey

Purpose:

This measure is used to determine the proportion of women ever attempting to breastfeed.

Issues:

The proportion of infants never breastfed may vary considerably; it is under one percent in some developing countries and much greater in many developed countries. Assessment of the never breastfed rate is necessary to interpret the prevalence of breastfeeding and exclusive breastfeeding at later points in time.

One issue for consideration is whether to include infants who are given expressed breastmilk rather than fed at the breast. Premature infants are often unable to suck and may be given expressed breastmilk. Omission of such infants would bias the numbers downward, since any live-born premature infants would be included in the denominator. Where the proportion of infants never breastfed is quite low, such a bias needs to be considered.

Optional Indicator 8. Bottle-Feeding Rate

Definition:

The indicator gives the percentage of infants <12 months of age receiving any food or drink from a bottle with a nipple.

Measurement:

Numerator: Number of infants <12 months who were bottle-fed in the last 24 hours
Denominator: Number of infants <12 months

From a sample of infants <12 months, the number of infants who have received a bottle of any substance (fluid or mushy) in the last 24 hours, regardless of whether the infant has also been breastfed.

Purpose:

The indicator's purpose is to assess the extent of bottle-feeding at an early age. Use of a bottle interferes with optimal breastfeeding practices. When a woman is unable to breastfeed, use of a cup rather than a bottle is recommended because of the significant increase in infant morbidity and mortality associated with bottle use.

Issues:

This indicator is calculated from 24-hour recall data for infants less than 12 months of age. The Reproductive Health Indicators Working Group has recently recommended that the indicator be calculated for infants 0 - <6 months of age because research has shown that bottle use is often greater during the first few months of life.

An age-adjusted bottle-feeding rate by months of age is possible, sample size permitting.

Appendix 3
Interviewer Screening Form[26]

1. Print your first and last name in the space below.

   Name: _____

2. Sex (circle correct choice below)

   1= Male
   2= Female

3. Have you had any previous interviewing experience? (Circle one)

   1= NO (skip to #5)
   2= YES

4. Briefly describe who you interviewed and the purpose of the survey.

   Explain:

   _____
   _____
   _____
   _____
   _____
   _____
   _____

5. Indicate your highest level of education. (Circle the correct choice below)
   1 = 8th grade or less
   2 = Some high school
   3 = High school diploma
   4 = Some university
   5 = University degree
   6 = Some post graduate work

6. What was your age on your last birthday?

   _____ years

26. Adapt to make appropriate for the situation.

Appendix 4
Checklist for Assessing Data Quality

Responses to Questionnaires

- **Age:** If age of child is based on mother's report (as opposed to having been calculated), has there been "heaping" of data at 6-month intervals or rounding up?

- **Breastfeeding Duration:** Does the denominator include data on all infants born during the specified time period?

- **Foods and Liquids Questions:** Are the basic food and liquid categories included (refer to Table 3 and/or the DHS, WHO, or UNICEF questionnaires)?

- **Diarrhea:** Was a definition provided for "diarrhea" and "diarrheal episode"?

- **Survey Subjects:** Have data been obtained for all children within the survey age range?

Comparing Data

- **Foods and Liquids Questions:** If change over time is being assessed, are question items consistent?

- **Infant Feeding Behavior Rates:** Is the distribution of infants across age categories similar?

Appendix 5
Translating Data into Indicators

Once data are collected, information on the child's current age, breastfeeding status, and foods and liquids given in the 24-hour period preceding the interview may be used to calculate the recommended indicators. The following two examples illustrate the use of data to create infant feeding indicators.

Indicator: Exclusive Breastfeeding Rate

1. Select infants aged 0 - <6 months (using data from Table 2, Questions 1 and 2).

   For this example, assume there are 335 living infants aged 0 - <6 months.

2. From responses to Questions 5 and 6a-j, determine that in the previous 24 hours:

   33 received no breastmilk ("No" to Q5)
   56 received only breastmilk[27] ("Yes" to Q5, "No" to Q6a-j)
   12 received breastmilk with vitamin/mineral drops or medicine, but nothing else ("Yes" to only Q5 and Q6a)
   59 received breastmilk and liquids and/or solids other than vitamins/mineral ("Yes" to Q5 and to at least one of the following: Q6b-j)

In this example, 68 infants are exclusively breastfed (56 + 12), so the Exclusive Breastfeeding Rate is (68/335 x 100) = 20.3 percent.

Indicator: Timely Complementary Feeding Rate

1. Select infants aged 6 - <10 months (using data from Table 2, Questions 1 and 2).

   For this example, assume there are 204 infants aged 6 - <10 months.

2. From responses to Questions 5 and 6a-j, determine that in the previous 24 hours:

   4 received only breastmilk ("Yes" to Q5, no to Q6a-j)
   1 received only breastmilk and vitamins/minerals/medicines ("Yes" to only Q5 and Q6a)
   20 received breastmilk and some other liquids but no solids ("Yes" to Q5 and any of Q6b-h, "No" to Q6i)
   130 received breastmilk with both other liquids and solids ("Yes" to Q5, any of Q6b-h, and to Q6i)

---

27. Bolded responses contribute to the numerator in each calculation.

16 received no breastmilk and only other liquids (“No” to Q5,”Yes” to any of Q6b-h)
33 received no breastmilk and both other liquids and solids (“No” to Q5, “Yes’ to any of Q6b-h and to Q6i)

In this example, 130 infants receive both breastmilk and solids. The Timely Complementary Feeding Rate is (130/204) x 100 = 63.7 percent.

Appendix 6
Calculating Age

Using Epi Info

Create a new variable, the child's age in days, and then calculate the age in days from the date of interview and date of birth. Dates of birth and interview must be in the same format (dd/mm/yy or mm/dd/yy) and must be defined in Epi Info as dates (rather than numbers or string variables).

Define Kiddays ###### This defines a new number variable.

Kiddays = (Date of interview) - (Date of birth)

This calculation should give the child's age in days. If the resulting number is negative or is outside the expected age range of the children in the study, check the dates to make sure they are correct.

To write code which will convert infant age in days to age in completed months, use the conversions in the table on the following page.

Using SPSS for Windows

From the TRANSFORM menu, choose COMPUTE. Give the new TARGET VARIABLE a name such as "age" or "age_days." From the FUNCTION list, choose CTIME.DAYS (timevalue) and enter it into the NUMERIC EXPRESSION box. The final expression should look as follows:

Target Variable		Numeric Expression
Age	=	CTIME.DAYS (variable name for interview date) - CTIME.DAYS (variable name for infant's birth date)

This transformation will give infant age in days. Use the table on the following page to write code which will convert infant age in days to age in completed months.

Age Conversion Chart: Relationship of Age to Feeding Indicators		
Age in Completed Months	**Days**	**Feeding Indicators Related to Age**
<1 month	0-30 days	Exclusive Breastfeeding Rate
1 month	31-61 days	
2 months	62-91 days	
3 months	92-122 days	
4 months	123-152 days	
5 months	153-182 days	
6 months	183-213 days	Timely Complementary Feeding Rate
7 months	214-243 days	
8 months	244-274 days	
9 months	275-304 days	
10 months	305-335 days	
11 months	336-365 days	
12 months	366-395 days	Continued Breastfeeding at 12 Months
13 months	396-426 days	
14 months	427-456 days	
15 months	457-487 days	
16 months	488-517 days	
17 months	518-547 days	
18 months	548-578 days	
19 months	579-608 days	
20 months	609-639 days	Continued Breastfeeding at 24 Months
21 months	640-669 days	
22 months	670-700 days	
23 months	701-730 days	

Appendix 7
List of Generic Title II Indicators

Category	Level	Indicator
Health, nutrition, and MCH	Impact	% stunted children 24-59 months (height/age Z-score)
		% underweight children by age group (weight/age Z-score)
		% infants breastfed w/in 8 hours of birth
		% infants under 6 months breastfed only
		% infants 6-10 months fed complementary foods
		% infants continuously fed during diarrhea
		% infants fed extra food for 2 weeks after diarrhea
	Annual monitoring	% eligible children in growth monitoring/promotion
		% children immunized for measles at 12 months
		% of communities with community health organization
		% children in growth promotion program gaining weight in past 3 months (gender
Water and sanitation	Impact	% infants with diarrhea in last two weeks
		liters of household water use per person
		% population with proper hand washing behavior
		% households with access to adequate sanitation (also annual monitoring)
	Annual monitoring	% households with year-round access to safe water
		% water/sanitation facilities maintained by community
Household food consumption	Impact	% households consuming minimum daily food requirements
		number of meals/snacks eaten per day
		number of different food/food groups eaten
Agricultural productivity	Impact	annual yield of targeted crops
		yield gaps (actual vs. potential)
		yield variability under varying conditions
		value of agricultural production per vulnerable household
		months of household grain provisions
		% of crops lost to pests or environment
	Annual monitoring	annual yield of targeted crops
		number of hectares in which improved practices adopted
		number of storage facilities built and used
Natural resource management	Impact	imputed soil erosion
		imputed soil fertility
		yields or yield variability (also annual monitoring)
	Annual monitoring	number of hectares in which NRM practices used
		seedling/ sapling survival rate
FFW/CFW roads	Impact	agriculture input price margins between areas
		availability of key agriculture inputs
		staple food transport costs by seasons
		volume of agriculture produce transported by households to markets
		volume of vehicle traffic by vehicle type
	Annual monitoring	kilometers of farm to market roads rehabilitated
		selected annual measurements of the impact indicators